

I claim:

1. A method for measuring EIRP power of a satellite downlink carrier signal, said method comprising:

identifying a frequency corresponding to the carrier signal;

automatically measuring a power level and bandwidth of the carrier signal at said frequency;

automatically determining a level of a reference carrier signal;

automatically calculating an EIRP power value for the carrier signal based on the measured power level and bandwidth and the level of said reference carrier signal, wherein said measuring, determining, and calculating steps are automatically performed under control of a computer program.

2. The method of claim 2, wherein said computer program controls a spectrum analyzer to automatically measure the power level and bandwidth of the carrier signal.

3. The method of claim 2, wherein, in performing said measuring step, said computer program sends control information to the spectrum analyzer to automatically adjust the spectrum analyzer to at least one of a bandwidth, a span, and said carrier frequency corresponding to a customer as stored in a database.

4. The method of claim 3, wherein said bandwidth is at least one of a video bandwidth and a resolution bandwidth.

5. The method of claim 1, wherein said measuring step is automatically performed by said computer program in accordance with steps that include:

- a) instructing a spectrum analyzer to automatically activate a delta marker;
- b) adjusting the delta marker to a 3 db point on one side of the carrier signal; and
- c) storing the carrier signal in a trace A.

6. The method of claim 5, wherein the delta marker is established at a peak amplitude of the carrier signal, after which the delta marker function is then activated.

7. The method of claim 5, further comprising:
- d) activating a trace B;
 - e) dialing in a frequency of a 10 dbw reference carrier;
 - f) placing the 10 dbw reference carrier in direct relation to the delta marker on the carrier signal; and
 - g) reading and recording a 3 db bandwidth and amplitude of the carrier signal.

8. The method of claim 7, wherein said step of automatically calculating the EIRP power value includes:

calculating a difference between the amplitude of the carrier signal and an amplitude of the reference carrier signal, said amplitude of the reference carrier signal being based on the level determined in said automatic determining step;

computing a correction factor related to a power of an unmodulated carrier; and

computing the EIRP power value based on a sum of the correction factor and amplitude difference.

9. The method of claim 8, wherein the correction factor is computed in accordance with a formula expressed as: $CF = 10 \cdot \log(MB/RB)$, where CF is the correction factor, MB is the measured bandwidth, and RB is a resolution bandwidth.

10. The method of claim 1, further comprising:

automatically displaying the EIRP power value on a display terminal.

11. The method of claim 1, further comprising:

selecting a satellite and transponder corresponding to the carrier signal.

12. The method of claim 11, wherein said selecting step is automatically performed by said computer program.

13. The method of claim 12, wherein said computer program automatically selects said satellite and transponder based on customer information stored in a database.

14. The method of claim 1, wherein said step of automatically determining the level of said reference carrier signal includes:

automatically selecting a satellite and transponder corresponding to a customer associated with the carrier signal; and

controlling a spectrum analyzer to measure the level of said reference carrier signal from said automatically selected satellite and transponder.

15. A computer-implemented method for controlling a spectrum analyzer to automatically measure information corresponding to a carrier signal, said method comprising:

sending control information to the spectrum analyzer to automatically adjust the spectrum analyzer to at least one of a bandwidth, a span, and a frequency of said carrier signal;

measuring a power level and bandwidth of the carrier signal at said frequency; and

outputting information corresponding to said power level and said bandwidth to predetermined destination.

16. The method of claim 15, further comprising:

retrieving information corresponding to said bandwidth, span, and frequency from a database.

17. The method of claim 15, wherein said bandwidth is at least one of a video bandwidth and a resolution bandwidth.

18. A method for measuring EIRP power of a satellite downlink carrier signal, steps of said method embodied within a computer program stored on a computer-readable medium, said computer program including:

a first code section for measuring a power level and bandwidth of a carrier signal at a predetermined frequency;

a second code section for determining a level of a reference carrier signal; and

a third code section for calculating an EIRP power value for the carrier signal based on the measured power level and bandwidth and the level of said reference carrier signal.

19. The method of claim 18, wherein said first code section includes code which:

sends control information to a spectrum analyzer to automatically adjust the spectrum analyzer to at least one of a bandwidth, a span, and a frequency of the carrier signal; and

controls the spectrum analyzer to measure the power level and bandwidth of the carrier signal at said frequency.

20. The method of claim 18, wherein said second code section includes code which:

selects a satellite and transponder corresponding to a customer associated with the carrier signal; and

controls a spectrum analyzer to measure the level of said reference carrier signal from said automatically selected satellite and transponder.

21. The method of claim 18, wherein said third code section includes code which:

instructs a spectrum analyzer to automatically activate a delta marker; adjusts the delta marker to a 3 db point on one side of the carrier signal;

stores the carrier signal in a trace A;

activates a trace B;

dials in a frequency of a 10 dbw reference carrier;

places the 10 dbw reference carrier in direct relation to the delta marker on the carrier signal;

reads and records a 3 db bandwidth and amplitude of the carrier signal.

calculates a difference between the amplitude of the carrier signal and an amplitude of the reference carrier signal, said amplitude of the reference carrier signal being based on the level determined by said second code section;

computing a correction factor related to a power of an unmodulated carrier; and

computing the EIRP power value based on a sum of the correction factor and amplitude difference.

22. The method of claim 21, wherein the delta marker is established at a peak amplitude of the carrier signal, after which the delta marker function is then activated.

23. The method of claim 21, wherein the correction factor is computed in accordance with a formula expressed as: $CF = 10 * \text{Log} (MB/RB)$, where CF is the correction factor, MB is the measured bandwidth, and RB is a resolution bandwidth.

24. A system for automatically measuring EIRP power of a satellite
downlink carrier signal, comprising:

a database for storing information indicative of a frequency of the
carrier signal;

a spectrum analyzer which measures a power level and a bandwidth
of the carrier signal at said frequency and which measures a power level of a
reference carrier signal;

a processor which calculates an EIRP power value for the carrier
signal based on the power level and bandwidth measured for the carrier signal and
the power level measured for said reference carrier signal; and

a storage device which stores a computer program for automatically
controlling said spectrum analyzer and said processor to calculate said EIRP power
value.

25. The system of claim 24, further comprising:

at least one user terminal, said computer program controlling said
processor to automatically display information corresponding to said EIRP power
value on said at least one user terminal.